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souri. In June of last summer I found myself culling simples at Fort Harker, away among the buffaloes and prairie dogs on the Smoky-hill fork of the Kansas River.

Although if a scientific section of my trunk were now to be made, it might exhibit about four-score annual circles, yet I am happy to state that the ligneous fibres appear thus far to do their duty, and the sap vessels to transmit their contents. And I confidently trust that on no occasion will my botanical friends find me to be hollow-hearted.

I am, gentlemen, with the greatest respect, your obedient servant,

JACOB BIGELOW.

ZOÖLOGY.

The Breeding Habits of Birds.—I notice in the November number of the Naturalist an article from Mr. Fowler, in which are given some interesting facts in relation to the breeding habits of several of our birds, but which are, as Mr. Fowler says, so utterly at variance with the accounts given of these bird's habits in my recent book, that I unwillingly trespass on your limits for an explanation, and reiteration of some of my remarks. In the work referred to, I describe the Kingfisher's nests as being placed in holes excavated in sand-banks, to the depth of three, four, sometimes six or eight feet.

The holes found by Mr. Fowler were less than three feet in length, and none of them contained any nest materials whatever. Here Mr. Fowler's experience is entirely different from my own, for of numbers of these holes that I have dug out, many of them were beyond four feet in length, one certainly more than six feet, and I have heard of one that was carried to the depth of nearly eight feet. All of these holes had their loose nests composed of straws, sticks, and a few feathers, and I should be surprised to meet with the eggs laid on the cold damp earth, such as would be at the bottom of such deep excavations. I find, on referring to the various authors, that nearly all had similar experiences with mine.

Audubon says, "The hole is dug to the depth of four, five, or sometimes six feet; at the farther end, on a few sticks and feathers, the eggs are deposited."

Wilson says, "The hole is dug, sometimes to the extent of four or five feet. The nest is constructed of loose grass and a few feathers."

Nuttall says, "The bank is horizontally perforated, to the depth of five or six feet. Here, on a few twigs, grass, and feathers, the eggs are deposited."

Dr. Thompson, in "Birds of Vermont," says, "The perforations sometimes extend five or six feet into the bank. The nest consists of twigs, grass, and feathers."

In describing the breeding place of the Red or Mottled Owl, in my work, I use the following language: "The Mottled Owl selects for a nesting-place a hollow tree, often in the orchard. The nest is made at the bottom of the hollow, and is constructed of grass, leaves, moss, and sometimes a few feathers. It is not elaborately made, being nothing more than a heap of soft materials."

Here again Mr. Fowler disagrees with me, saying that the bird makes no nest, or, at least, he has never found one. I can only say that I have found numbers of the nests of these birds, none of which were in the "abandoned nest of the crow or hawk," but all were made, as before described, in holes in trees. I have had over fifty eggs of this species sent me during the past season, and all were found in such nests as I have described. With this species I also find that my accounts are supported by other authors.

Nuttall says, "The nest is usually in the hollow of an old orchard tree; it is lined carelessly with a little hay, leaves, and feathers."

Audubon says, "The nest is placed in the bottom of the hollow trunk of a tree, often not at a greater height than six or seven feet from the ground, at other times so high as from thirty to forty feet. It is composed of a few grasses and feathers."

Dr. Thompson, in "Birds of Vermont," says, "Their nest, which is made of grass and feathers, is placed at the bottom of a hollow tree or stub."

I give this matter this extended notice, not for the purpose of throwing discredit on Mr. Fowler's statements, for I know him to be a good observer, but to show that my descriptions will faithfully apply to, at least, the majority of occurrences in the breeding habits of the species referred to.

As to the matter of the Marsh Hawk's nest being "rather neatly woven," to which Mr. Fowler takes exceptions, I will say that perhaps "interlaced" would be a better word, since "woven" gives an idea of sewing, such as the process of preparing the nest of the Vireo and Oriole, but "interlaced" conveys the idea of careful adjustment, which should be understood in connection with the nest of this species.—EDWARD A. SAMUELS, *Boston.*

BEE PARASITE.—Inclosed you will find some thin shavings from boards and slabs where the *Xylocopa* abounds, with small eggs attached, which I strongly suspect to be those of *Anthrax sinuosa.* They are found quite numerously around the openings of the cells of the former insect, and also extend to some distance from them. In pressing some of these eggs with the point of a pin, small maggots made their appearance, but my lens was not powerful enough to enable me to make out what they were, but they seemed to me to resemble very much the Anthrax in its earliest stages, as I have found it on the Xylocopa. I have no doubt you can determine this matter,* and should it prove to be what I have supposed it is, it will open an interesting field for future observation. One reason that strongly inclines me to the belief that they are the eggs of Anthrax is, that one day I discovered an *Anthrax* on the wing by one of the openings of a Xylocopa cell, acting in the same manner as the Bot-fly in depositing its eggs on the horse. I was very busy at the time, and did not look for the eggs until some time afterwards, when I found those of which the inclosed are a sample. However, I think if you find them to belong to a dipterous insect, there can be no doubt but they are those of *A. sinuosa.* — JAMES ANGUS.

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*The eggs had dried up so they were not recognizable.—EDS.

HIBERNATION OF WILD BEES.—I beg leave to say that I think you have made a mistake in supposing or stating that the females only, and not the males of *Ceratina dupla*, survive the winter. Both sexes, according to my observations, hybernate, as also *Xylocopa Virginica.*

I beg leave also to make another correction. You say,* with regard to Ants, that the workers only hybernate. I have found the females of some species hybernating in common with the workers in great quantities, and not unfrequently males also. While this is the case with some species, I think what you say is correct with regard to others. — JAMES ANGUS.

JUVENILE NATURAL HISTORY SOCIETY. — We have in this city perhaps quite a scientific curiosity, namely, a *Juvenile* Society of Natural History, composed of boys less than twenty years of age. We have been organized two years, and are now in a very flourishing condition, although it was hard "tugging" for a few of us the first year. We have, for us, a large collection, and a good one, numbering some eight hundred specimens. We cannot, of course, do much at research, but we are coming surely along the road you older naturalists have gone; and, by and by, when we get on the frontier where you are, you will hear from us. — G. W. SMITH, *Grand Rapids, Michigan.*

PROTECTION OF TREES FROM INSECTS. — The quantity of fruit destroyed by insects that deposit their eggs in the blossoms is enormous. These creatures are said to have a great antipathy to vinegar, the mere odor of which is enough to drive them away, and, in some cases, to destroy them, and nothing more is required than to sprinkle the branches with a mixture of vinegar and water at the moment the blossoms begin to appear. The solution, consisting of one part of strong vinegar to nine parts of water, can be sprinkled over the flower-buds by means of a garden engine or syringe, or even with a watering-pot with a fine nose. — *Proceedings of the Entomological Society, London*, 1866.

OCCURRENCE OF THE BARNACLE GOOSE IN NORTH AMERICA. — A specimen of this goose (*Bernicla leucopsis*) has recently been received by the Smithsonian Institution from Mr. B. R. Ross, a gentleman well known for his collections and publications relative to arctic zoölogy. It was obtained by that gentleman near Rupert House, on James Bay (the southern end of Hudson Bay), and is believed to be the first North American specimen brought to the notice of naturalists. It has for a long time been indicated as belonging to our fauna, but only on hearsay evidence of gunners and travellers, and it is not mentioned by Richardson at all in his work on American Arctic Zoölogy. — S. F. BAIRD.

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* Naturalist, Vol. I, p. 392.

A DOUBLE EGG.—Yesterday one of my servants, on opening a hen's egg found another egg within it. The inclosed was about the size of a robin's egg, with a well-formed, slightly rough shell. It lay in the white. The parent egg was fully formed and was eaten. I heard of it on arriving home, and secured the small one. It has not yet been opened.—E. L. S.

There are two similar specimens in the Museum of the Essex Institute. Two cases are also mentioned as occurring in England, in *Hardwicke's Science Gossip*, in which it states that a "communication was made last year to the Académie des Sciences of France, of a similar occurrence."—EDITORS.

HABITS OF THE STRIPED SNAKE.—A case of the common striped snake killing its prey—a common mouse—after a chase by crushing it in its folds in the boa constrictor manner, has for the first time come to my knowledge. In trying to escape, the mouse ran up the inner angle of a wall some eighteen inches, when the snake (which was about twenty-four inches in length) caught it, enveloping it in its folds with lightning-like rapidity, crushed and killed it, and then swallowed it, all after the manner described of the large constrictors, except perhaps the chasing.—F. W., *Newark, N. J.*

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MICROSCOPY.

THE MICROSCOPE IN GEOLOGY.—D. Forbes, in the Popular Science Review, writes on this rather novel subject. After a few prefatory remarks upon the general advantages of the use of the Microscope in studying the intimate structure of rocks, the author divides them all into two classes, "Primary or Eruptive," and "Secondary or Sedimentary Rocks." Under the first head he states that "the mineral constituents of such rocks are seen to be developed as more or less perfect crystals, at all angles to one another," which he infers could only take place in a rock at one time, "in a state of liquidity or solution" (aqueous or igneous). When "quartz, leucite, calcite, felspar," and other colorless minerals present similar appearances in thin sections, they may be distinguished by "their optical properties and the use of polarized light;" by similar tests different forms of the same mineral may be separated, and the structure, whether crystalline or vitreous, determined, and the alterations in eruptive rocks produced by the action of water, the atmosphere, or other agencies advantageously studied. In conclusion, reference is made to the discovery by Sorby of the existence "of numerous minute fluid cavities in the quartz of granites," and also in volcanic rocks, "in the felspar and nephiline ejected from the crater of Vesuvius." These facts, and the farther statement that "fluid vapor, gas, and stone cavities, are common both to the volcanic quartz-trachytes and the oldest granites," are used as proving the great value of the microscope in this branch of inquiry. Under the head of Sedimentary Rocks, the author distinguishes